

Appln No. 09/991,199

Amdt date February 27, 2004

Reply to Office action of December 1, 2003

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A scan test apparatus for testing printed circuit boards comprising:

an upper housing and a lower housing, each having a first drive roller and a second drive roller for movement of the printed circuit board with respect to the scan test apparatus;

a shorting matrix for electrically shorting the printed circuit board positioned on at least one of the upper housing or the lower housing, the shorting matrix having a leading edge and a trailing edge; and

an electrical contactor positioned on at least one of the upper housing or the lower housing adjacent at least one of the leading edge of the shorting matrix ~~and adjacent~~ or the trailing edge of the shorting matrix;

wherein the electrical ~~contactors transmit~~ contactor transmits test signals from the printed circuit board to measurement electronics.

2. (Original) The scan test apparatus of claim 1 wherein a shorting matrix is positioned on both the upper housing and the lower housing and there is an electrical contactor adjacent the leading edge and the trailing edge of each shorting matrix.

3. (Original) The scan test apparatus of claim 1 further comprising an actuator connected to one of the upper housing or

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the lower housing to bias the upper housing and the lower housing toward one another.

4. (Currently amended) The scan test apparatus of claim 1 ~~further comprising mounting chucks for maintaining the printed circuit board in a stationary position~~ 3 wherein the actuator is a linear motor.

5. (Currently amended) The scan test apparatus of claim 4 ~~further comprising rigid rails for the drive rollers to move the scan test apparatus across a surface of the stationary printed circuit board~~ 3 wherein the actuator is selected from a group of a pneumatic cylinder, hydraulic cylinder or spring.

6. Canceled

7. (Currently amended) The scan test apparatus of claim 6 1 wherein the ~~motion unit is a housing and drive rollers~~ electrical contactor is selected from the group of wiper brushes, accordian probes, beam probes or flex circuit fingers.

8. (Currently amended) The scan test apparatus of claim 6 1 wherein the ~~motion unit is a linear motor~~ the shorting matrix is either a conductive and compliant layer or a metal plate.

9. Canceled

10. Canceled

11. Canceled

12. Canceled

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13. Canceled

14. Canceled

15. Canceled

16. Canceled

17. (Currently amended) A scan test apparatus for testing printed circuit boards comprising:

an upper housing and a lower housing, each having means for moving the printed circuit board with respect to the scan test apparatus;

a shorting matrix positioned on at least one of the upper housing and the lower housing;

at least one ~~non-contact~~ sensor positioned on at least one of the upper housing and the lower housing ~~opposite~~ adjacent an edge of the shorting matrix; and

means to bias the upper and lower housing toward each other.

18. (Currently amended) The scan test apparatus of claim 17 wherein there is a shorting matrix positioned on both the upper and lower housings and there is a ~~non-contact~~ sensor located ~~on each side~~ adjacent each edge of the shorting matrix on both the upper and lower housings.

19. Canceled

20. (Original) The scan test apparatus of claim 17 wherein the means to bias the upper and lower housings is an actuator.

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**Amendments to the Drawings:**

The attached sheet of drawings includes changes to Figs. 1-3. These sheets, which includes Fig. 1-3, replaces the original sheet including Fig. 1-3.

Attachment:      Replacement Sheet  
                    Annotated Sheet Showing Changes